

also enable spare processing capability to be made available for other applications, without degradation of the network functions being performed.

**[0014]** It would also be an advantage to provide third parties with the ability to have greater control of how their plug-in hardware or software operates with the invention by enabling programming of ActiveX modules that enable components to be dragged and dropped in a control and management interface into desired network configurations.

**[0015]** Security of state of the art network devices is also a problem because embedded devices typically utilize a modified version of operating system software. The modified version is typically scaled down so as to include limited features. Therefore, it would be an advantage over the prior art to provide a system that utilizes a complete Operating System that can take advantage of the full range of Operating System's capabilities, including security features.

**[0016]** The background described above generally deals with the problems of multiple IP services being provided on a plurality of different platforms, and how it would be

advantageous to provide the services in a single non-  
vendor specific platform. However, another shortcoming of  
the prior art is in the structure of the Internet itself.  
There are many high bandwidth applications that cannot be  
5 implemented in a practical manner because of the  
bottlenecks that cannot be overcome with the traditional  
tree structure being used today. Therefore, it is the  
purpose of this specification to describe how a plurality  
of the Open IP Services Platforms can be configured to  
10 enable practical implementation of high bandwidth  
services.

**[0017]      Summary of Invention:** It is an object of the  
present invention to provide a network topology that when  
15 combined with a plurality of Open IP Services Platforms,  
enables implementation of high bandwidth applications  
across a global information network such as the Internet.

**[0018]**      It is another object to provide a system that  
enables multiple network functions to be performed within  
20 a single device known as the Open IP Services Platform.

**[0019]**      It is another object to provide the system  
wherein the Open IP Services Platform can perform any

combination of the functions of a router, bridge, load balancer, firewall, packet shaper, switch, server, or any other network devices.

5     **[0020]**     It is another object to reduce congestion on the global information network.

**[0021]**     It is another object to reduce vulnerability of the global information network to peak loads caused by normal use as well as intentional attacks.

10     **[0022]**     It is another object to reduce latency on the global information network.

**[0023]**     It is another object to reduce expenses associated with centralized bandwidth and storage capacity of the global information network.

15     **[0024]**     The present invention is embodied in a switch fabric global information network topology, wherein a switch fabric network matrix provides an Open IP Services Platform at each node thereof, the Open IP Services Platform providing decentralization of network services and a constant trunk size, wherein the switch fabric  
20     network matrix eliminates saturation of any communication line, thereby always making bandwidth available, and